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**ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY CLASS I PERMIT**

COMPANY: *American Smelting and Refining Company (ASARCO)*

FACILITY: *Hayden Concentrator*

PERMIT #: *M070399P1-99*

DATE ISSUED: *PROPOSED PERMIT (April 12, 2000)*

EXPIRY DATE:

ABSTRACT

This operating permit is issued to American Smelting and Refining Company (ASARCO), the Permittee, for operation of their Hayden Concentrator located in Hayden, Arizona .

ASARCO operates a metallic mineral concentrating facility in Hayden, AZ. This plant concentrates ore, containing copper prior to a smelting operation. Copper ore is excavated from the ground at the Ray mine in Arizona, and following primary crushing, is transported to the Hayden Concentrator. At the Hayden Concentrator, the ore is passed through secondary and tertiary crushing processes where it is further reduced in size. The ore is then transported to rod mills and ball mills where the ore is converted to a slurry. After the grinding operations, the ore slurry is directed to froth flotation tanks where the copper minerals are separated from the bulk of the copper ore. The copper rich concentrate, which contains about 25 - 30 % copper metal is sent to a smelting operation. The tailings from the froth flotation process are pumped off to tailings dams.

Air emissions, primarily in the form of particulate matter, occur at a number of locations in the facility. Pollution control devices such as Wet Scrubbers, Water Sprays, Baghouses, and Dust Hoods are used to control emissions from point sources. Fugitive emissions from tailings dams, unpaved roads, and other open areas are controlled by a number of dust suppression schemes such as chemical stabilization, revegetation, and watering.

This facility is a "major source" of particulate matter emissions for the purposes of Title V of the Clean Air Act. This permit is issued in accordance with Title V of the Clean Air Act, and Title 49, Chapter 3 of the Arizona Revised Statutes (ARS). Air emissions are governed by regulations drawn from the Arizona State Implementation Plan, Hayden PM10 State Implementation Plan, and Title 40 of the Code of Federal Regulations. All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code R18-2-101 et. seq. (A.A.C.) and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the A.A.C. All terms and conditions of this permit are federally enforceable under the Clean Air Act, except when they are specifically designated as "State Enforceable Only".

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ATTACHMENT "A": GENERAL PROVISIONS

Air Quality Control Permit No. M070399P1-99

For

ASARCO - Hayden Concentrator

I. PERMIT EXPIRATION AND RENEWAL

[A.R.S. § 49-426.F, A.A.C. R18-2-304.C.2 and 306.A.1]

- A. This permit is valid for a period of five years from the date of issuance of the permit.
- B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8, A.R.S. 49-463, A.R.S. 49-464]

- A. The Permittee shall comply with all the conditions contained in Attachments "A" through "F" of this permit including all applicable requirements of Arizona air quality statutes and the air quality rules. Any permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
- B. Need to halt or reduce activity not a defense. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c, 321]

- A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination; or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- B. The permit shall be reopened and revised under any of the following circumstances:
 - 1. Additional applicable requirements under the Act become applicable to the Class I source. Such reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms

and conditions has been extended pursuant to R18-2-322(B). Any permit revision required pursuant to this subparagraph shall comply with provisions in R18-2-322 for permit renewal and shall reset the five year permit term.

2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.
 3. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
- C. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under paragraph 1 above, affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in paragraph III.B.1 of this Attachment shall not result in a resetting of the five year permit term.

IV. POSTING OF PERMIT

[A.A.C. R18-2-315]

- A. Permittee shall post such permit, or a certificate of permit issuance on location where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by the permit shall be clearly marked with one of the following:
1. Current permit number.
 2. Serial number or other equipment number that is also listed in the permit to identify that piece of equipment.
- B. A copy of the complete permit shall be kept on the site.

V. FEE PAYMENT

[A.A.C. R18-2-326, 306.A.9.]

Permittee shall pay fees to the Director pursuant to A.R.S. § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327]

- A. Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31 or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the

previous calendar year.

- B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

- A. Permittee shall submit a compliance certification to the Director twice each year, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than April 30th, and shall report the compliance status of the source during the period between October 1st of the previous year, and March 31st of the current year. The second certification shall be submitted no later than October 30th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year. The certification submittal deadlines may be extended by receiving written approval from the Director [A.A.C. R18-2-309.2.a]

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification; [A.A.C. R18-2-309.2.c.i]
2. Compliance status of each applicable requirement; [A.A.C. R18-2-309.2.c.ii]
3. Whether compliance was based on continuous or intermittent data; [A.A.C. R18-2-309.2.c.iii]
4. Method(s) used for determining the compliance status of the source, currently and over the reporting period; [A.A.C. R18-2-309.2.c.iv]
5. A progress report on all outstanding compliance schedules submitted pursuant to Section XI.D of this Attachment shall be attached to the compliance certification. Progress reports submitted with compliance certifications shall satisfy the reporting requirements of A.A.C. R18-2-309.5.d. [A.A.C. R18-2-309(2)(c)(v), A.A.C. R18-2-309.5.d]

- B. A copy of all compliance certifications for Class I permits shall also be submitted to the EPA Administrator. [A.A.C. R18-2-309.2.d]

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS [A.A.C. R18-2-309.3]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this part shall state that, based on information and belief formed after

reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

The Permittee shall allow the Director or the authorized representative of the Director upon presentation of proper credentials to:

- A. Enter upon the Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
- B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
- C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
- E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[A.A.C. R18-2-304.C.4]

If this source becomes subject to a standard promulgated by the Administrator pursuant to section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. REPORTING OF EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCIES

A. EXCESS EMISSIONS REPORTING

[A.A.C. R18-2-310.C]

- 1. Excess emissions as defined in A.A.C. R18-2-101(37) shall be reported as follows:

- a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

- (1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from paragraph b. of this subsection.

- (2) Detailed written notification within 72 hours of the notification pursuant to subpara-

graph (1) of this paragraph.

b. Report shall contain the following information:

- (1) Identity of each stack or other emission point where the excess emissions occurred.
 - (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions.
 - (3) Date, time and duration or expected duration of the excess emissions.
 - (4) Identity of the equipment from which the excess emissions emanated.
 - (5) Nature and cause of such emissions.
 - (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions.
 - (7) Steps taken to limit the excess emissions. If the source's permit contains procedures governing source operation during periods of start-up or malfunction and the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.
2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to subsection A.3.a.(2) of this Section. [A.A.C. R18-2-310.D]
3. It shall be the burden of the Permittee to demonstrate, through submission of the data and information required by this section, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of excess emissions. [A.A.C. R18-2-310.B]

B. PERMIT DEVIATIONS REPORTING

[A.A.C. R18-2-306.A.5]

1. Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time the deviation occurred.

2. All instances of deviations from permit requirements shall be clearly identified in the required semiannual monitoring report specified in Attachment "B", Section III.B, and shall be certified by the responsible official. [A.A.C. R18-2-306.A.5.a]

C. EMERGENCY PROVISION

[A.A.C. R18-2-306.E]

1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Paragraph 3 of this section are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - (4) The Permittee shall submit notice of the emergency to the Director by certified mail, facsimile or hand delivery within 2 working days of the time when emission limitations were exceeded due to an emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

- D. For any excess emission or permit deviation that cannot be corrected within 72 hours, the

Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated. [A.R.S. 49-4256(I)(5)]

XII. RECORD KEEPING REQUIREMENTS

[A.A.C. R18-2-306.A.4]

- A. Permittee shall keep records of all required monitoring information including, but not limited to, the following:
 - 1. The date, place as defined in the permit, and time of sampling or measurements;
 - 2. The date(s) analyses were performed;
 - 3. The name of the company or entity that performed the analyses;
 - 4. A description of the analytical techniques or methods used;
 - 5. The results of such analyses; and
 - 6. The operating conditions as existing at the time of sampling or measurement.
- B. Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

XIII. REPORTING REQUIREMENTS

[A.A.C. R18-2-306.A.5]

Permittee shall submit the following reports :

- A. Compliance certifications in accordance with Section VII of Attachment “A”.
- B. Excess emissions, permit deviations, and emergency reports in accordance with Section XI of Attachment “A”.
- C. Other reports required by Section III of Attachment “B”.

XIV. DUTY TO PROVIDE INFORMATION

[A.A.C. R18-2-304.G and 306.A.8.e]

- A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the

permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.

- B. If the Permittee has failed to submit any relevant facts or if the Permittee has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XV. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-318, 319 and 320]

Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVI, as follows:

- A. Administrative Permit Amendment (A.A.C. R18-2-318);
- B. Minor Permit Revision (A.A.C. R18-2-319);
- C. Significant Permit Revision (A.A.C. R18-2-320).

The applicability and requirements for such action are defined in the above referenced regulations.

XVI. FACILITY CHANGE WITHOUT PERMIT REVISION

[A.A.C. R18-2-317]

- A. Permittee may make changes at the permitted source without a permit revision if all of the following apply:
 - 1. The changes are not modifications under any provision of Title I of the Act or under A.R.S. § 49-401.01(17).
 - 2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions.
 - 3. The changes do not violate any applicable requirements or trigger any additional applicable requirements.
 - 4. The changes satisfy all requirements for a minor permit revision under R18-2-319(A).
 - 5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
- B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of subsections (A) and (C) of this Section.

- C. For each such change under subsections A and B of this Section, a written notice by certified mail or hand delivery shall be received by the Director and, for Class I permits, the Administrator, a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change but must be provided as far in advance of the change as possible or, if advance notification is not practicable, as soon after the change as possible. Each notification shall include:
1. When the proposed change will occur.
 2. A description of each such change.
 3. Any change in emissions of regulated air pollutants.
 4. The pollutants emitted subject to the emissions trade, if any.
 5. The provisions in the implementation plan that provide for the emissions trade with which the source will comply and any other information as may be required by the provisions in the implementation plan authorizing the trade.
 6. If the emissions trading provisions of the implementation plan are invoked, then the permit requirements with which the source will comply.
 7. Any permit term or condition that is no longer applicable as a result of the change.

XVII. PERFORMANCE TESTING REQUIREMENTS

[A.A.C.R18-2-312]

A. Operational Conditions During Testing

Performance tests shall be conducted under such conditions as the Director shall specify to the plant operator based on representative performance of the source. Permittee shall make available to the Director such records as may be necessary to determine the conditions of the performance tests. Operations during periods of start-up, shutdown, and malfunction shall not constitute representative operating conditions of performance tests unless otherwise specified in the applicable standard.

B. Notice of Performance Test

Permittee shall provide the Director two weeks prior notice of the performance test to afford the Director the opportunity to have an observer present.

C. Stack Sampling Facilities

Permittee shall provide or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platforms;
3. Safe access to sampling platforms; and
4. Utilities for sampling and testing equipment.

D. Interpretation of Final Results

Each performance test shall consist of three separate runs using the required test method. Each run shall be conducted in accordance with the applicable standard and test method. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. If a sample is accidentally lost or conditions occur which are not under the Permittee's control and which may invalidate the run, compliance may, upon the Director's approval, be determined using the arithmetic mean of the other two runs. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes, forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions or other conditions beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation which demonstrates good cause must be submitted.

E. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XVIII. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XIX. SEVERABILITY CLAUSE

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XX. PERMIT SHIELD

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with the applicable requirements identified in Attachment "B" of this permit. The permit shield shall not apply to any changes made pursuant to Section XV.B of this Attachment and Section XVI of this Attachment.

XXI. ACCIDENTAL RELEASE PROGRAM

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the timeline specified in 40 CFR Part 68.

[40 CFR 68]

ATTACHMENT "B": SPECIFIC CONDITIONS

Air Quality Control Permit No. M070399P1-99 For *ASARCO - Hayden Concentrator*

{Reading Note: In this Attachment there are many instances where requirements in different parts have to be cross-referenced. To streamline the cross-referencing procedure, and reduce ambiguity, the following naming convention has been adopted - Level 1 : Section ; Level 2: Part; Level 3:Paragraph; Level 4:Sub-Paragraph; Level 5: Condition. For example, the permit requirements for "existing" sources would be found in Section 1. The Emission Standards for "existing" sources would be found in Part I.A. The Opacity Standard for "existing" sources would be found in Paragraph I.A.2. }

I. Affected Facilities Subject to Standards of Performance for Existing Nonferrous Metals Industry Sources [AZSIP R9-3-521] (Emission units identified as "Existing" in Column 6 of the equipment list in Attachment "C" of this permit)

A. Emission Limitations and Standards

1. Particulate Matter

a. FEDERALLY ENFORCEABLE CONDITION

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amounts calculated by the following equations:

- (1) For process sources having a process rate of 30 tons per hour or less, the maximum allowable emission shall be determined by the following equation:

$$E = 3.59P^{0.62}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter

- (2) For process sources having a process weight rate greater than 30 tons per hour, the maximum allowable emissions shall be determined by the following equation :

$$E = 17.31P^{0.16}$$

Where “E” and “P” are defined as indicated in Condition I.A.1.a.(1) above.

[Arizona State Implementation Plan (AZSIP) R9-3-521(A)(2), AZSIP R9-3-521(A)(4)]

b. STATE ENFORCEABLE CONDITION

Permittee shall not cause to be discharged into the atmosphere any stack emissions from scrubbers 3, 6, and 7 that contain particulate matter in excess of 0.115 grams per dry standard cubic meter (or 0.05 grains per dry standard cubic foot).

[Hayden PM10 State Implementation Plan Section (HSIPS) 7.1.4.1]

2. Opacity

The opacity of emissions from any of the equipment into the atmosphere shall not be greater than 40 percent as measured by EPA Reference Method 9.

[A.A.C. R18-2-702(B)]

B. *Air Pollution Controls*

Permittee shall continue to operate the air pollution control equipment associated with the units subject to the requirements of this Section.

[HSIPS 7.1.2.1, Underlined portion is a material permit condition (A.A.C. R18-2-331(a)(3)(e))]

C. *Monitoring, Reporting, Recordkeeping*

1. Permittee shall record the daily process rate and hours of operation of all material handling facilities.

[A.A.C. R18-2-721(F)]

2. For each scrubber, Permittee shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 250 pascals (± 1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with the manufacturer's instructions.

[A.A.C. R18-2-306(A)(3)(b)]

3. For each scrubber, Permittee shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate to the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 5 percent of the design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with the manufacturer's specifications.

[A.A.C. R18-2-306(A)(3)(b)]

4. Permittee shall record on a weekly basis the measurements of both the change in the pressure of gas stream across the scrubbers and the scrubbing liquid flow rate.

5. Permittee shall submit semi-annual reports to the Director of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than ± 30 percent from the average obtained during the most recent performance test. These reports shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

[A.A.C. R18-2-306(A)(3)(b)]

6. Bi-weekly Monitoring Requirement for Fugitive Sources (For the purposes of this Paragraph, "Bi-weekly" means once every two weeks)

[A.A.C. R18-2-306(a)(3)]

- a. A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the metallic mineral mining units covered by this Section when they are in operation. Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
- b. If the observer sees visible emissions from a fugitive source that on an instantaneous basis appears to exceed 40 percent, then the observer shall if possible take a six-minute Method 9 observation of the plume.
- c. If the six-minute opacity of the plume exceeds the opacity standard, then the Permittee shall do the following:
 - (1) Location, date, and time of the test;
 - (2) The results of the Method 9 observation;
 - (3) Adjust or repair the controls or equipment to reduce opacity to below the standard; and
 - (4) Report it as an excess emission for opacity.
- d. If the six-minute opacity of the plume is less than 40 percent, the observer shall make a record of the following:
 - (1) Location, date, and time of the test; and
 - (2) The results of the Method 9 observation.

7. Permittee shall maintain records of emissions related maintenance performed on the air pollution control equipment and process equipment covered by this Section.

[A.A.C. R18-2-306(a)(2)]

D. Performance Tests

Permittee shall conduct an annual performance test for particulate matter on each stack subject to the requirements of this Section. EPA Reference Method 5 shall be used to conduct this test. Results of the test will be compared against the emissions standards in Sub-Paragraphs I(A)(1)(a), and I(A)(1)(b) of this Attachment.

E. Permit Shield

Compliance with the terms of this Section shall be deemed compliance with the requirement(s) of AZSIP R9-3-521(a)(2), AZSIP R9-3-521(a)(4), A.A.C. R18-2-721(B), A.A.C. R18-2-721(D), A.A.C. R18-2-721(F), and A.A.C. R18-2-702(B) in effect on the date of permit issuance.

[A.A.C. R18-2-325]

II. Affected Facilities Subject to New Source Performance Standards for Metallic Mineral Processing Plants [40 CFR Part 60, Subpart LL] (*Emission units identified as "New" in Column 6 of the equipment list in Attachment "C" of this permit*)

A. Emission Limitations and Standards

1. Particulate Matter

Permittee shall not cause to be discharged into the atmosphere from an affected facility, any stack emissions that contain particulate matter in excess of 0.05 grams per dry standard cubic meter.

[40 CFR 60.382(a)(1)]

2. Opacity

a. Permittee shall not cause to be discharged into the atmosphere from an affected facility, any stack emissions that exhibit greater than 7 percent opacity, unless the stack emissions are discharged from the affected facility using a wet scrubbing emission control device.

[40 CFR 60.382(a)(2)]

b. Permittee shall not cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.

[40 CFR 60.382(b)]

B. Air Pollution Controls

1. Permittee shall operate the air pollution control equipment associated with the units subject to the requirements of this Section.

[Underlined portion is a material permit condition (A.A.C. R18-2-331(a)(3)(e))]

2. At all times the Permittee shall, to the extent practicable, maintain and operate the air pollution control devices associated with the units subject to the requirements of this Section in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.

[40 CFR 60.11(d)]

C. Monitoring, Reporting, and Recordkeeping

1. Permittee shall maintain and operate all the metallic mineral processing equipment subject to the requirements of this Section in a manner consistent with good air pollution control practices.

[40 CFR 60.11(d)]

2. Permittee shall maintain records of emissions related maintenance performed on the air pollution control equipment and process equipment covered by this section. [A.A.C. R18-2-306(a)(2)]
3. For each scrubber, Permittee shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 250 pascals (± 1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with the manufacturer's instructions.
[40 CFR 60.384(a)]
4. For each scrubber, Permittee shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate to the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 5 percent of the design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with the manufacturer's specifications.
[40 CFR 60.384(b)]
5. Permittee shall record on a weekly basis the measurements of both the change in the pressure of gas stream across the scrubbers and the scrubbing liquid flow rate. [40 CFR 60.385(b)]
6. Permittee shall submit semi-annual reports to the Director of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than ± 30 percent from the average obtained during the most recent performance test. These reports shall be postmarked within 30 days following the end of the second and fourth calendar quarters.
[40 CFR 60.385(c) and (d)]
7. Bi-weekly Monitoring Requirement (For the purposes of this Paragraph, "Bi-weekly" means once every two weeks) [A.A.C. R18-2-306(a)(3)]
 - a. A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the process fugitive sources when they are in operation. Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
 - b. If the observer sees a plume from a process fugitive source that on an instantaneous basis appears to exceed 10%, then the observer shall if possible take a six-minute Method 9 observation of the plume.
 - c. If the six-minute opacity of the plume is less than 10%, the observer shall make a record of the following:
 - (1) Location, date, and time of the test; and
 - (2) The results of the Method 9 observation.

d. If the six-minute opacity of the plume exceeds 10%, then the Permittee shall do the following:

- (1) Location, date, and time of the test;
- (2) The results of the Method 9 observation;
- (3) Adjust or repair the controls or equipment to reduce opacity to below 10%; and
- (4) Report it as an excess emission under Section XI.A of Attachment "A".

D. Performance Tests

1. Permittee shall conduct a performance test for particulate matter once during the term of this permit on each stack subject to the requirements of this Section. EPA Reference Method 5 shall be used to conduct this test.
2. Permittee shall conduct at least one annual performance test to measure the opacity of the visible emissions exiting from each stack subject to the provisions of this Section. EPA Reference Method 9 shall be used to conduct this test.

E. Permit Shield

Compliance with the terms of this Section shall be deemed compliance with the requirement(s) of 40 CFR 60.382(a)(1), 40 CFR 60.382(a)(2), 40 CFR 60.382(b), 40 CFR 60.384(a), 40 CFR 60.384(b), 40 CFR 60.385(b), 40 CFR 60.385(c), and 40 CFR 60.385(d) in effect on the date of permit issuance.

[A.A.C. R18-2-325]

III. Additional Requirements from the Hayden PM10 State Implementation Plan

These requirements are state-enforceable only until the plan is approved by the Environmental Protection Agency, following which the requirements will be federally enforceable. The double underline identifies each term as a material permit condition pursuant to A.A.C. R18-2-331(A)(3)(e).

A. Track Hopper

Permittee shall maintain and operate at least four water sprays each on the southern, northern, and central sides of the track hopper building. The track hopper shall not be operated without a functional spray system.

B. Crusher Building

1. Permittee shall continue to maintain and operate the hooding on conveyor C2 to cover the open area of the belt between the shorthead and standard crusher drop points.
2. Permittee shall continue to maintain and operate the hooding, vents, and sprays on the transfer point between conveyors C2 and C3.

3. Permittee shall continue to operate and maintain a new dust seal on the number 5 tripper conveyor.
4. Permittee shall continue to maintain and operate the sixteen water sprays on conveyor C2 before and after each of the eight crusher drop points.
5. Permittee shall continue to maintain and operate two water sprays each on the discharge points from conveyors C6 and C7.
6. Permittee shall continue to perform weekly water washdowns of the lower floors of the crusher building. Permittee shall continue to use a vacuum truck on the ground level and basement floors of the crusher building.

C. Transfer Tower

1. Permittee shall continue to maintain and operate a dust hood over conveyor C4 at the transfer tower to connect the feed chute and discharge tower.
2. Permittee shall continue to maintain and operate a hood over the transfer chute between conveyors C4 and C5.
3. Permittee shall continue to maintain and operate two water sprays on each of C3/C4 and C4/C5 transfer chutes.
4. Permittee shall continue to perform weekly water washdowns of the transfer house floor.

D. Conveyor C9

1. Permittee shall continue to maintain and operate the idlers on conveyor C9 at 35".
2. Permittee shall continue to maintain and operate a 180" enclosure on the sections of conveyor C9 that pass over Fourth Street, Hillcrest Avenue, and Smelter Road.

E. Unpaved Areas

1. Permittee shall continue to maintain paving on the following storage areas : (i) the concentrate storage area near the sampling building at the Hayden Plant; and (ii) the main concentrate storage area at the Hayden Plant.
2. Permittee shall use surfactants on all unpaved roads.
3. Permittee shall operate and maintain a water truck in order to decrease emissions of particulate matter from roadways and the areas surrounding conveyors such that the effective emission control is 90%. Permittee shall submit a test plan for determining efficiency based on sampling

and testing in accordance with procedures in EPA-450/3-88-008 - "Control of Fugitive Dust Sources".

4. Permittee shall stabilize all unpaved roads and parking areas utilized in plant operations (including Canyon Drive, Kennecott Road, and ASARCO-Ray Unit Road) using chemical dust suppressants. The effective emission control of this stabilization technique shall be demonstrated to be not less than 90%.
5. On or before the fifteenth day of each calendar quarter, Permittee shall submit a written report describing maintenance of all unpaved areas described above. The report shall be for the previous calendar quarter and shall include information describing the times of application of chemical dust suppressants and the tests conducted in order to determine the efficiency of the dust suppression techniques on the roads specified above.

F. Tailings Dams

1. Roads around the tailings ponds shall be capped with decomposed granite.
2. Permittee shall continue to ensure that all areas of the tailings ponds are kept damp or encrusted.

G. Other

1. Particulate matter captured by pollution control equipment shall be handled and disposed of in a manner which prevents emission into the atmosphere.
2. Permittee shall maintain gates, berms, and other means necessary to prevent off-road vehicular use on plant property. Permittee shall cooperate with local law enforcement officers to prosecute offenders in accordance with A.A.C. R18-2-604(C).
3. Permittee shall maintain ventilation at the points described as (i) feeder belt to screens, (ii) screen to shorthead crushers, (iii) screen to C7 belt in accordance with Table 7.4 of the Hayden PM10 State Implementation Plan.
4. Permittee shall not operate the lime kilns.

IV. Non-Point Sources

A. Emission Limitations and Standards

1. Permittee shall not cause, allow or permit visible emissions from open areas, roadways and streets, storage piles or material handling in excess of 40 % opacity measured in accordance with the Arizona Testing Manual, Reference Method 9. [A.A.C.R18-2-610]

2. Permittee shall employ at least one of the following reasonable precautions, or any other method as proposed by the Permittee and approved by the Director, to prevent excessive amounts of particulate matter from becoming airborne:

- a. Use dust suppressants or soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, or barring access when constructing, using, altering, repairing, demolishing, clearing, or leveling a building or its appurtenances, a driveway, a parking area, or a vacant lot, or when moving or excavating earth.

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, stemming, optimizing blast pattern, controlling oxygen balance of explosives during blast operations, minimize material drop height, temporary paving, road cover, controlling vehicle access, limiting vehicle speed, revegetation, hydro-seeding, hydro-mulching, mulching, wet sweeping, vacuuming, wind fence, wind break, shrouding, skirting, enclosing, contouring, animals, soil adhesives, compaction, agglomeration, and encrustation.

[A.A.C.R18-2-604(A)]

- b. Apply temporary paving, dust suppressants, wetting down, or detouring when using, repairing, constructing or reconstructing a roadway.

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, controlling vehicle access, limiting vehicle speed, revegetation, hydro-seeding, hydro-mulching, mulching, landscaping, wet sweeping, vacuum, wind fence, wind break, covering, contouring, usage of soil adhesives, usage of soil stabilizers, compaction, usage of decomposed granite, agglomeration, and encrustation.

[A.A.C.R18-2-605(A)]

- c. Apply dust suppressants, wetting, or cover the load when transporting materials likely to give rise to airborne dust.

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, minimizing material drop height, limiting vehicle speed, wind break, covering, agglomeration, and encrustation.

[A.A.C.R18-2-605(B)]

- d. Use spray bars, wetting, wetting agents, dust suppressants, covers, or hoods when crushing, screening, handling, transporting, or conveying material that is likely to result in significant amounts of airborne dust;

In addition to the above, the following have been identified as reasonable precautions:

Minimizing material drop height, wind fence, wind break, shrouding, skirting, enclosing, contouring, and agglomeration.

[A.A.C.R18-2-606]

- e. Use chemical stabilization, wetting, or covering when stacking, piling or otherwise storing organic or inorganic dust-producing material

In addition to the above, the following have been identified as reasonable precautions:

Wind fence, wind break, shrouding, skirting, enclosing, covering, contouring, agglomeration, and encrustation.

[A.A.C.R18-2-607(A)]

- f. Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents;

In addition to the above, the following have been identified as reasonable precautions:

Wetting, wind fence, wind break, shrouding, skirting, enclosing, covering, contouring, and agglomeration.

[A.A.C.R18-2-607(B)]

- g. Use wetting, chemical stabilization, or revegetation when constructing mineral tailing piles;

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, maximizing the wet surface area, barring or controlling vehicle access, limiting vehicle speed, hydro-seeding, hydro-mulching, mulching, landscaping, wind fence, wind break, covering, contouring, animals, soil adhesives, soil stabilizers, compaction, usage of decomposed granite, agglomeration, and encrustation.

[A.A.C. R18-2-608]

- h. Use wetting agents or dust suppressants before the cleaning of any site, roadway, or alley. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means;

In addition to the above, the following have been identified as reasonable precautions:

Wetting, chip seal, gravel, temporary paving, controlling vehicle access, limiting vehicle speed, revegetation, and hydro-seeding.

[A.A.C.R18-2-804(B)]

B. Monitoring, Reporting, and Recordkeeping

1. Permittee shall maintain records of the dates on which any of the activities listed in Sub-Paragraphs IV(A)(2)(a) through (h) of this Attachment were performed and control measures employed.

[A.A.C R18-2-306(a)(3)(b)]

2. In lieu of Paragraph IV(B)(1), the Permittee may maintain a Non-Point Source Monitoring Plan as a means of monitoring and recordkeeping for any of the activities listed in Sub-Paragraphs IV(A)(2)(a) through (h) of this Attachment.

[A.A.C R18-2-306(a)(3)(b)]

- a. If the Non-Point Source Monitoring Plan has not been submitted to the Director as part of the Class I application form, the Permittee may submit a significant revision pursuant to AAC R18-2-320 stating an intent to rely on a Non-Point Source Monitoring Plan. The Non-Point Source Monitoring Plan shall be submitted with the Significant Revision application.
 - b. The Non-Point Source Monitoring Plan shall describe the methods the Permittee will use to comply with the requirements of this Section. The plan shall contain the following minimum elements of information :
 - (1) Types of control measures employed on an activity-specific basis;
 - (2) Frequency of application of control measures; and
 - (3) A system for documenting variations from the strategy outlined in the Non-Point Source Monitoring Plan.
 - c. Any changes in the Non-Point Source Monitoring Plan shall be recorded, and a notification shall be sent to the Director within 10 days following the change.
3. Bi-weekly Monitoring Requirement (For the purposes of this Paragraph, “Bi-weekly” means once every two weeks)

[A.A.C R18-2-306(a)(3)(b)]

 - a. Within 180 days of issuance of this permit, Permittee shall have a visual observation plan approved by the Department. The observation plan shall identify a central lookout station or multiple observation points, as appropriate, from where the non point sources shall be monitored. When multiple observation points are used, all the non point sources associated with each observation point shall be specifically identified within the observation plan.
 - b. The certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the non-point sources when they are in operation in accordance with the observation plan. Permittee shall keep a record of the name of the observer, date on which the observation was made, and the results of the observation.

- c. If the observer sees a plume from a non-point source that on an instantaneous basis appears to exceed 40%, then the observer shall if possible take a six-minute Method 9 observation of the plume.
- d. If the six-minute opacity of the plume exceeds 40%, then the Permittee shall do the following:
 - (1) Adjust or repair the controls or equipment to reduce opacity to below 40%; and
 - (2) Report it as an excess emission under Section XI.A of Attachment "A".
- e. If the six-minute opacity of the plume is less than 40%, the observer shall make a record of the following:
 - (1) Location, date, and time of the test; and
 - (2) The results of the Method 9 observation.
- f. Any changes to the observation plan, originally approved by the Department, shall be made only with the prior approval of the Director.

C. Permit Shield

Compliance with the terms of this Section shall be deemed compliance with the requirement(s) of A.A.C. R18-2-604, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, A.A.C. R18-2-608, A.A.C. R18-2-610, and A.A.C. R18-2-804(B) in effect on the date of permit issuance.

[A.A.C. R18-2-325]

V. Lime Silo

A. Emission Limitations and Standards

1. Particulate Matter

a. FEDERALLY ENFORCEABLE CONDITION

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amounts calculated by the following equations:

- (1) For process sources having a process rate of 30 tons per hour or less, the maximum allowable emission shall be determined by the following equation:

$$E = 3.59P^{0.62}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour.

- (2) For process sources having a process weight rate greater than 30 tons per hour, the maximum allowable emissions shall be determined by the following equation :

$$E = 17.31P^{0.16}$$

Where “E” and “P” are defined as indicated in Condition V.A.1.a.(1) above.
[Arizona State Implementation Plan (AZSIP) R9-3-502(a)(2)]

2. Opacity

The opacity of emissions from any of the equipment into the atmosphere shall not be greater than 40 percent as measured by EPA Reference Method 9. [A.A.C. R18-2-702(B)]

B. Air Pollution Control

Permittee shall operate the air pollution control equipment associated with the units subject to the requirements of this Section.

[Underlined portion is a material permit condition (A.A.C. R18-2-331(A)(3)(e))]

C. Monitoring, Reporting, and Recordkeeping

1. Within 180 days of issuance of this permit, Permittee shall conduct at least one certified Method 9 performance test in accordance with Section XVII of Attachment A on the lime silo baghouse while it is operating at normal representative working conditions, to establish a baseline opacity level. Within 30 days of establishing the baseline opacity, the Permittee shall report the results to the Director.
[A.A.C. R18-2-306(A)(3)]
2. Bi-weekly Monitoring Requirement for the Lime Silo Baghouse (For the purposes of this Paragraph, “Bi-weekly” means once every two weeks) [A.A.C. R18-2-306(A)(3)]
 - a. A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the lime silo baghouse when it is in operation. Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.
 - b. If the observer sees a plume from the lime silo baghouse that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall if possible take a six-minute Method 9 observation of the plume.

- c. If the six-minute opacity of the plume is less than the baseline, the observer shall make a record of the following:
 - (1) Date, and time of the test; and
 - (2) The results of the Method 9 observation.
- d. If the six-minute opacity of the plume exceeds the baseline level but is less than the opacity standard, Permittee shall adjust or repair the controls or equipment to reduce opacity to below the baseline level. The Permittee shall make a record of the following:
 - (1) Date, and time of the test;
 - (2) The results of the Method 9 observation; and
 - (3) Corrective action taken.
- e. If the six-minute opacity of the plume exceeds both the baseline level and the opacity standard, then the Permittee shall do the following:
 - (1) Date, and time of the test;
 - (2) The results of the Method 9 observation;
 - (3) Adjust or repair the controls or equipment to reduce opacity to below the baseline level; and
 - (4) Report it as an excess emission for opacity.
- 3. If necessitated by the results of the bi-weekly monitoring, Permittee may re-establish the baseline opacity level. Re-establishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

[A.A.C. R18-2-306(A)(3)(b)]

D. Permit Shield

Compliance with the terms of this Section shall be deemed compliance with the requirement(s) of AZSIP R18-2-502(a)(2), A.A.C. R18-2-730(a), and A.A.C. R18-2-702(B) in effect on the date of permit issuance.

[A.A.C. R18-2-325]

VI. Fuel Burning Equipment rated at greater than 500,000 BTU/hr in the aggregate

A. Emission Limitations and Standards

- 1. Permittee shall not cause, allow or permit the emission of particulate matter, caused by the combustion of fuel in excess of the amount calculated by the following equation:

$$E = 1.02 Q^{0.769} \text{ where:}$$

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million Btu per hour. [A.A.C. R18-2-724(C)(1)]

2. Permittee shall not cause, allow or permit to be emitted into the atmosphere, smoke which exceeds 15 percent opacity. [A.A.C. R18-2-724(J)]
3. Permittee shall not emit more than 1.0 pound of sulfur dioxide per million BTU heat input when firing distillate oil. [A.A.C. R18-2-724(E)]
4. Permittee shall burn only natural gas or distillate oil. [A.A.C. R18-2-306(A)(2)]

B. Monitoring, Reporting, and Recordkeeping

Permittee shall report all 6-minute periods during which the visible emissions exceed 15 % opacity. [A.A.C. R18-2-724(J)]

C. Permit Shield

Compliance with the terms of this Section shall be deemed compliance with the requirement(s) of A.A.C. R18-2-724(C)(1), A.A.C. R18-2-724(E), and A.A.C. R18-2-724(J) in effect on the date of permit issuance.

[A.A.C. R18-2-325]

VII. Mobile Sources

The requirements of this Section are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.84.

[A.A.C. R18-2-801]

A. Emission Limitations and Standards

Permittee shall not cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-804(a)]

B. Monitoring, Reporting, and Recordkeeping

The Permittee shall keep a record of all emissions related maintenance activities performed on mobile

sources utilized within the station property line as per manufacturers specifications.

[A.A.C. R18-2-306(a)(3)(b)]

C. Permit Shield

Compliance with the terms of this Section shall be deemed compliance with the requirement(s) of A.A.C. R18-2-802, and A.A.C. R18-2-804(a) in effect on the date of permit issuance.

[A.A.C. R18-2-325]

ATTACHMENT "C": EQUIPMENT LIST

Air Quality Control Permit No. M070399P1-99 For *ASARCO - Hayden Concentrator*

Name	Make	Model/Serial No	Date of Manufacture	Capacity	New/Existing
ORE RECEIVING (Air Pollution Control : Scrubber #7) : REQUIREMENTS IN ATTACHMENT B, SECTION I					
Track Hopper	National Iron Co	TH	1959	6000 ton dead 3500 ton live	Existing
Reciprocating Plate Feeders (6 total)	National Iron Co	Hydrastroke Feeders / PF1 - PF6	1959	48 inch	Existing
Scrubber #7	Ducon	IV/C99-0808-Item 2 / WS7	1988	36,000 ACFM	Existing
CONVEYORS (Air Pollution Control : Scrubber #3) : REQUIREMENTS IN ATTACHMENT B, SECTION I					
#1 a-c Conveyor Belts (Plate Feeder to Secondary Screens)	42 inch	BF1 - BF3	u/a	1040 tph	Existing
#2 Conveyor Belt (Secondary Crushers to #3 Conveyor Belt)	60 inch	#2C	u/a	3470 tph	Existing
#3 Conveyor Belt (#2 Conveyor Belt to #4 Conveyor Belt)	60 inch	#3C	u/a	3470 tph	Existing
#4 Conveyor Belt (#3 Conveyor Belt to #5 Conveyor Belt)	60 inch	#4C	u/a	3470 tph	Existing

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Name	Make	Model/Serial No	Date of Manufacture	Capacity	New/Existing
#5 Conveyor Belt (#4 Conveyor Belt to Surge Bin)	60 inch	#5C	u/a	3470 tph	Existing
#6 Conveyor Belt (Secondary Screens to #8 Conveyor Belt)	42 inch	#6C	u/a	490 tph	Existing
#8 Conveyor Belt (#6 and #9 Conveyor Belts to #9 Conveyor Belt)	42 inch	#8C	u/a	1650 tph	Existing
#7 Conveyor Belt (Tertiary Screens to #8 Conveyor Belts)	48 inch	#7C	u/a	1375 tph	Existing
#9 Cable Conveyor Belt (#8 Conveyor Belt to #10 Conveyor Belt)	42 inch	#9C	u/a	1650 tph	Existing
#10 Conveyor Belt (#9 Conveyor Belt to Fine Ore Bins)	48 inch	#10C	u/a	1875 tph	Existing
Scrubber #3	Clean Gas Systems	Dynascrub II	1995	34,000 CFM	Existing
SECONDARY CRUSHING CIRCUIT (Air Pollution Control : Scrubber #4) : REQUIREMENTS IN ATTACHMENT B, SECTION II					
Crusher Screens (3 total)	Allis	Low-head / SS1 - SS3	1995	8' X 16' double deck	New
Cone Crushers (3 total)	Symons by Nordberg	SC1 - SC3	1958	7 foot	Existing
Scrubber #4	Clean Gas Systems	Dynascrub II / WS4	1995	36,000 ACFM	New
TERTIARY CRUSHING CIRCUIT (Air Pollution Control : Scrubbers #1, #2, #5) : REQUIREMENTS IN ATTACHMENT B, SECTION II					
Variable Speed Feeders (6 total)	60 inch	TBF1 - TBF6	u/a	750 tph	Existing
Tertiary Feed Bin	u/a	TFB	1961	2900 ton live	Existing

Name	Make	Model/Serial No	Date of Manufacture	Capacity	New/Existing
Vibrating Screens (6 total)	Ty-Rock	Double Deck/K09531, K09532, K09533, K09534 / TS1 - TS6	1997	2970 tph	New
Cone Crushers (6 total)	Symons by Nordberg	Shorthead / TC1 - TC6	1958	7 foot	Existing
Scrubber #1	Ducon Dynamic Scrubber	IV/DC88-808-Z-Item 3 / WS1	1988	36,000ACFM	New
Scrubber #2	Ducon Dynamic Scrubber	IV/DS88-808-23-Item 4 / WS2	1988	36,000ACFM	New
Scrubber #5	Ducon Dynamic Scrubber	IV / WS5	1988	36,000ACFM	New
TRANSFER HOUSE (<i>Air Pollution Control : Scrubber #6</i>) : REQUIREMENTS IN ATTACHMENT B, SECTION I					
Transfer House	u/a	TFRH	u/a	u/a	Existing
Scrubber #6	Ducon Dynamic Scrubber	IV/C88-0808-Item 1 / WS6	1988	15,000 ACFM	Existing
FINE ORE STORAGE (<i>Air Pollution Control : Scrubbers #NW, #SO, #CE, #NO</i>) : REQUIREMENTS IN ATTACHMENT B, SECTION I AND SECTION II FOR #NW					
Fine Ore Bin	u/a	FOB	1961/1989	27,000 ton dead 15,000 ton live	Existing/New
Fine Ore Bin Northwest Scrubber #NW	Ducon Dynamic Scrubber	IV/DS89-939-Z / WSNW	1988	15,000 ACFM	New
Fine Ore Bin Southeast Scrubber #SO	Rotoclone Scrubber	Arrangement D / WSSO	1958	20,700 CFM	Existing
Fine Ore Bin Southwest Scrubber #CE	Rotoclone Scrubber	Arrangement D/W860085 / WSCE	1958	15,600 CFM	Existing

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ASARCO - Hayden Concentrator

April 12, 2000

Name	Make	Model/Serial No	Date of Manufacture	Capacity	New/Existing
Fine Ore Bin Northeast Scrubber #NO	Rotoclone Scrubber	Arrangement D/W59084 / WSNO	1958	14,000 CFM	Existing
LIME STORAGE AND HANDLING (<i>Air Pollution Control : Lime Dust Collector</i>) : REQUIREMENTS IN ATTACHMENT B, SECTION V					
Two Lime Storage Bins	u/a	u/a	1959	250 tons ea	Existing
Limestone Grits Conveyor Belt	u/a	u/a	u/a	18" belt	Existing
Lime Slaker	Eimco	u/a	1959	9 tph	Existing
Lime Dust Collector	Wheelabrator Dustube	126-D / LSB	1960	5100 CFM Shaker	Existing
OTHER					
Variable Speed Feeders	12-42 inch belts & 4-60 inch belts	u/a	u/a	218 tph	Existing
Feedweight Conveyor	Merrick	WS Feedweight/WS-3969/70	1959	2.5 to 15 tph	Existing
Conveyor Belt to Bucket Elevator	u/a	u/a	u/a	15 tph	Existing
Bucket Elevator	Hewitt Robins	u/a	1959	12.75 tph	Existing

u/a : Unavailable